

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions,
and listings, of claims in the application:

LISTING OF CLAIMS:

1-19. (Canceled)

20. (currently amended) An isolated enzymatically-active protein possessing a glutamine:fructose-6-phosphate amidotransferase (GFAT) activity comprising:

- a GFAT sequence and at least one purification tag sequence, the purification tag sequence being inserted between two consecutive amino acids of the GFAT sequence,

~~said GFAT sequence being a bacterial or eukaryotic sequence,
or human GFAT sequence,~~

~~said amino acids being included in a part of the GFAT
sequence extending approximately between amino acids 220 to 230
of the *Escherichia coli* GFAT (SEQ ID NO: 13) or~~

~~said amino acids being included between amino acids:~~

~~— 298 to 306 of SEQ ID NO: 2, corresponding to the human
GFAT1 sequence, or~~

~~— 299 to 307 of SEQ ID NO: 4, corresponding to the human
GFAT2 sequence, or~~

~~— 316 to 324 of SEQ ID NO: 6, corresponding to the human
GFAT1Alt sequence~~ **corresponding to the sequences:**

- SEQ ID NO: 8, consisting of a sequence SEQ ID NO: 2 in which a hexa-histidine is inserted between amino acids 299 and 300, or

- SEQ ID NO: 10, consisting of a sequence SEQ ID NO: 4 in which a hexa-histidine is inserted between amino acids 300 and 301, or

- SEQ ID NO: 12, consisting of a sequence SEQ ID NO: 6 in which a hexa-histidine is inserted between amino acids 317 and 318.

21-30. (Canceled)

31. (currently amended) An isolated nucleic acid comprising or being constituted by the nucleotide sequence:

- SEQ ID NO: 7 coding for the protein SEQ ID NO: 8, or
- SEQ ID NO: 9 coding for the protein SEQ ID NO: 10, or
- SEQ ID NO: 11 coding for the protein SEQ ID NO: 12
- .

32. (previously presented) A eukaryotic or prokaryotic vector comprising an isolated nucleic acid of claim 31.

33. (previously presented) A purification process for the isolated enzymatically-active protein possessing a GFAT activity of claim 20, from a solution comprising said protein, comprising

a stage of bringing said solution into the presence of a compound binding specifically to the purification tag of said protein and a stage of separation of the complex formed by the binding of said protein to said compound from the other constituents of the solution.

34. (previously presented) The purification process of claim 33, comprising a stage of bringing a solution comprising a protein consisting of the sequences SEQ ID NO : 8, SEQ ID NO : 10 or SEQ ID NO : 12, into the presence of a compound comprising a divalent metallic cation such as Ni^{2+} or Co^{2+} , in particular Ni^{2+} , and a stage of separation of the complex formed by the binding of the protein to said compound from the other constituents of the solution.

35. (previously presented) The purification process for the isolated enzymatically-active protein possessing a GFAT activity of claim 20, at $-80^{\circ}C$ or at $4^{\circ}C$, comprising the addition of said protein to a solution comprising:

- 1 mM to 10 mM of fructose 6-phosphate, or 1 mM,
- 1 mM to 5 mM of Tris(2-carboxyethyl) phosphine, or 1 mM,
- 5% to 20% of glycerol, or 10%.

36. (previously presented) A composition comprising the isolated enzymatically-active protein possessing a GFAT activity

according to claim 20, said protein being capable of being preserved in an enzymatically-active form, for at least 8 days at a temperature of 2°C to 10°C, in particular approximately 4°C, and for at least 12 months at a temperature of -100°C to -20°C, in particular approximately -80°C, said protein being in combination with:

- 1 mM to 10 mM of fructose 6-phosphate, or 1 mM,
- 1 mM to 5 mM of Tris(2-carboxyethyl) phosphine, or 1 mM,
- 5% to 20% of glycerol, or 10%.

37-38. (Canceled)